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REMARKS

Reconsideration of this application is respectfully requested. No claims are amended or cancelled. Claims 7, 16-32 are withdrawn from consideration. Claim 33 is newly added. Claims 1-6 and 8-15 are presented for further examination. Applicants respectfully submit that no new matter has been added.

Responsive to the final restriction and election requirements, claims 7 and 16-32, drawn to the non-elected embodiments, are hereby withdrawn in favor of the previously selected invention and previously elected species. Applicants reserve the right to file one or more divisional applications directed to the non-elected claims.

Claims 1-6 and 8-15 were rejected under 35 USC 103(a) as allegedly being unpatentable over Laver, U.S. Patent 5,516,472, Dawson-Andoh et al., Abstract from Vinyltec 2003 Conference, and Lyon et al., U.S. Patent 6,042,877.

Laver discloses an extrusion process for combining an organic fibrous material with a thermoplastic material to form a wood-imitating composite (Abstract). The ratio of cellulosic fibers to the thermoplastic material is between about 4:1 and 1:0 (See column 6, lines 62-63). Laver discloses further that lubricants such as zinc stearate may be used as a component in the make-up of the starting materials (column 7, line 19). Laver does not disclose or suggest an antimicrobially protected plastic product produced by any process, much less one made by the instantly claimed process.

Dawson-Andoh et al. discloses that rigid PVC-wood flour composite lumber containing either maple or pine wood flour was colonized and discoloured by fungi. The outstanding Office Action takes the position that the extruded product of Lava would be similarly contaminated by fungi, therefore it alleges that a person skilled in the art would recognize the need to apply a biocide to the extruded product of Lava.

The Office Action additionally relies upon Lyon et al. for the teaching of how to make a plastic material microbial resistant.

Lyon et al. discloses a method for making an anti-microbial article. The method includes the steps of: (1) coating the article with a solution containing a chelating polymer and a metal ion

and (2) treating the coated article with an antimicrobial solution (Abstract). The chelating polymers disclosed by Lyon et al. are capable of forming a film when coated on a surface. (column 3, lines 2-4). Suitable chelating polymers include polyglucosamine, ethylene acrylic acid copolymer, polycarboxylic acid, alkyleneimines and polyamine (column 3, lines 4-6).

Applicants submit that even assuming arguendo that a person skilled in the art is motivated to protect the Laver composite against fungi attack, there is no motivation to apply the method disclosed by Lyon et al. to the extruded composite disclosed by Laver. Applicants submit further that even if a person skilled in the art did consider the Lyon reference, there is no teaching, suggestion or motivation in the relied-upon references in favor of the instantly-claimed process, but rather one wherein a metal ion is added to the product after the product is formed in order to facilitate the chelation on the article's surface.

As discussed in detail above, Lava discloses a wood-imitating composite made of an organic fibrous material and a thermoplastic material. Lyon et al. does not teach or suggest applying the method of making an anti-microbial article to such composite materials. All the examples in Lyon et al. are directed to non-woven wipes, cellulose sponges and sponge cloth. Lyon et al. does disclose a "wish-list" of a dozen classes of materials as suitable substrates, including thermoplastics such as polyethylene and fibers made of pulp fibers. However, Applicants submit that the mere disclosure of polyethylene and pulp fibers among a wish list of substrates suitable for the method disclosed by Lyon et al. does not motivate or lead a person skilled in the art to select that material from Lyon's list and apply the method to a cellulose-polyethylene composite produced by the Laver process, much less selectively applying only step (2) of the method to a cellulose polyethylene composite in order to arrive at the instantly claimed invention. Indeed, Lyon et al. teaches away from applying only the second step of a two step method to any substrate. Moreover, Applicants submit that absent using impermissible hindsights reasoning with full knowledge of the present invention, Lyon's teachings can not be distorted by combination with the other relied-upon references in a misplaced effort to conclude that the instantly claimed invention is obvious.

As discussed in detail above, Lyon et al. disclose a two step process to protect an article. Specifically, Lyon et al. discloses that a layer of film is formed on the surface of the substrate after the first step, where the film contains a complex of a chelating agent and a metal ion (Lyon

et al. states in column 3, lines 1-2 that the metal ion forms a complex with the chelating polymer in the solution). Lyon et al. further discloses that a potentiator then partially displaces the bonds between the chelating polymer and the metal ion and form a chelating polymer-metal ion-potentiator complex in the film coated on the surface of the substrate after the second step of the process. (See column 4, lines 57-65). Accordingly, Lyon et al. teaches the utilization of the chelating polymer-metal ion-potentiator complex as an active biocide to provide sustaining antimicrobial effect to the treated substrate.

As discussed above, the extruded composite disclosed in Lava may contain a lubricant such as zinc stearate, which is a zinc salt. However, Lava does not disclose the presence of any chelating polymers in the extruded product, much less a chelating polymer-metal ion complex. Accordingly, if only step (2) of the process disclosed in Lyon et al. is selectively applied to the extruded product disclosed by Lyon, no chelating polymer-metal ion-potentiator complex would form. This would be contrary to the teaching of Lyon et al. that such complex is required to provide a sustaining antimicrobial efficacy. Therefore, there is no proper motivation to combined the teachings of Lyon and Lava, much less applying only step (2) of a two-step process disclosed by Lyon et al. to a composite disclosed by Lava.

As an alternative, if the teachings of Lyon et al. and Lave were combined, the combined references would teach a wood-imitating composite coated with a film that contains a chelating agent-metal ion-potentiator complex, which is nothing like the instantly claimed extruded or molded plastics. Therefore, the rejection under 103 can not be maintained.

By virtue of this Amendment, claim 33 is added to further distinguish the invention over the prior art. Support for the new claim may be found at page 10, lines 17-22, as well as page 8, lines 7-22. Claim 33 is directed to a process for incorporating a metal salt of an antimicrobial into a porous inner portion of an extruded or molded plastic product. It is respectively believed that claim 33 is novel and non-obvious over the cited prior art, accordingly, it is in condition for allowance.

In view of the foregoing, withdrawal of the outstanding rejections and allowing all the claims are respectfully requested.

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Respectfully submitted,
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